UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,895	02/10/2004	Jun Fang	MS1 - 3548US	3065

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EXAMINER
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2163	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

Office Action Summary	Application No.	Applicant(s)
	10/776,895	FANG ET AL.
	Examiner	Art Unit
	Wilson Lee	2163

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _4/16/08_.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-5,10,11,13-15,17,21-23,25 and 30-37_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _1-5,10,11,13-15,17,21-23,25 and 30-37_ is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____ .
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)
1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

Response to Arguments

Applicant's arguments filed on 4/16/08 have been fully considered but they are not persuasive.

Applicant picks the limitations, Xpath and XML document tree in Gottlob and asserts that no indication that XPath has anything to do with relational database queries relied upon the definition cited in website http://www.dpawson.co.uk/xsl/xslvocab.html.

Examiner is not persuaded.

The XPath limitation in Gottlob is referred to XPath processor (Col. 12, line 13; Col. 19, lines 15-24) being one of the embodiments, which evaluates XPath queries. Applicant's above explanation does not prove that Gottlob either excludes or fails to obtain relational database.

In fact, Col. 19, lines 10-12, Gottlob teaches that the top-down method used in Gottlob is joined with relational databases.

Also, the Boolean value is commonly being used as representation in a relational system. See Egilsson et al. (US Patent Application Publication 2003/0120642), paragraph 0043, lines 11-14, "It is also common in a relational database system to represent such functions by a number of boolean valued function..."

Claim Rejections - 35 U.S.C. 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 11, 13, 14, 15, 17, 32, 35 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in a test of whether the invention is categorized as a process, machine, manufacture or composition of matter and if the invention produces a useful, concrete and tangible result. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) are found to be non-statutory subject matter.

The "subsystem" for system is a software component. It is merely functional descriptive material and is nonstatutory. It fails to constitute a hardware system for claim 11 to fit within any patentable categories as set forth under 35 U.S.C. 101.

Claims 13-15, 17, 32, 35 are rejected by virtue of their dependency on claim 11.

Claims 21, 22, 23, 25, 34 are rejected under 35 U.S.C. 101 because it lacks a processor to execute the instructions and a memory or data storage for storing the instructions in order to make the invention operable.

Claims 22, 23, 25, 34 are rejected by virtue of its dependency on claim 21.

Claim 30 is rejected under 35 U.S.C. 101 because it lacks a processor to execute the instructions and a memory or data storage for storing the instructions in order to make the invention operable.

Claim Rejections – 35 U.S.C. 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 10, 35-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claims 10, 35-37, the claimed method fails to include any procedural steps to constitute a method that leads to algebrizing a syntax tree.

Claim Rejections – 35 U.S.C. 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1, 2, 3, 4, 5, 10, 11, 13, 14, 15, 17, 21, 22, 23, 25, 30-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Gottlob et al. (US Patent 7,162,485).

Regarding Claim 1, Gottlob et al. (7,162,485) discloses a method comprising

Identifying a syntax tree ("XML document trees", Col. 1, lines 27-28; "parse tree (expression tree)", Col. 12, line 15-20) of a relational database query ("Top-down processing", Col. 12, lines 15-20; "with parse tree of a given query", Col. 12, lines 1-2; "top-down method…with (join) optimization techniques in relational databases", Col. 19, lines 10-12); wherein the syntax tree comprises plurality of nodes ("selecting nodes, Col. 1, lines 27-28);

algebrizing the syntax tree representation ("XML document trees", Col. 1, lines 27-28; "parse tree (expression tree)", Col. 12, line 15-20) of a relational database query into a relational algebra representation ("formulating expressions that evaluate to a string, a number or a boolean value", Col. 1, lines 28-30) by performing at least two operations in a single pass (in step d. "**replacing variable** … provided by an input **variable binding**", Col. 26, lines 47-49) through the syntax tree representation ("XML document trees", Col. 1, lines 27-28; "parse tree (expression tree)", Col. 12, line 15-20), wherein at least two of the operations is selected from a group of operations comprising: aggregate binding ("set of **variable bindings**", Col. 24, line 58), constant folding ("**replaced by** the (**constant**) value", Col. 9,. line 31), and tree translation ("**translate function**". Col. 15, line 27).

Regarding Claim 2, Gottlob discloses the method of claim 1 wherein said at least two operations are executed in a predetermined order ("carry out the operation in time given two node sets", Col. 15, lines 52-53) at each of said plurality of nodes[1].

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[1] Fig. 4, node E5 has two operations: position () and last ().

Regarding Claim 3, Gottlob discloses that said at least operations comprises a first operation and second operation (e.g. any operation can be considered as first or second operation. Aggregate binding ("set of **variable bindings**", Col. 24, line 58) can be first, constant folding ("**replaced by** the (**constant**) value", Col. 9, line 31) can be second, or tree translation ("**translate function**". Col. 15, line 27) can be second; and said second operation either executes or does not execute at each of said of nodes and after said first based on a result from said first operation (Gottlob inherently obtains this feature. Operation is either executed or not executed. When the operation is named as second, of course it comes after first operation which based on first operation. Alternatively, when operation is named as first, of course it comes before the second operation).

Regarding Claim 4, Gottlob discloses the method of claim 1 wherein one of said at least two operations comprises constant folding ("replaced by the (constant) value", Col. 9, line 31)

Regarding Claim 5, Gottlob discloses the method of claim 1 wherein said at least two operations comprise aggregate binding ("set of variable bindings", Col. 24, line 58), Col. 9,. line 31), and tree translation ("translate function". Col. 15, line 27).

Regarding Claim 10, Gottlob discloses a method for algebrizing a syntax tree representation ("XML document trees", Col. 1, lines 27-28; "parse tree (expression tree)", Col. 12, line 15-20) of a relational database query ("Top-down processing", Col. 12, lines 15-20; "with parse tree of a given query", Col. 12, lines 1-2; "top-down method…with (join) optimization techniques in relational databases", Col. 19, lines 10-12) into a relational algebra representation ("formulating expressions that evaluate to a string, a number or a boolean value", Col. 1, lines 28-30), said syntax tree comprising a plurality of nodes ("selecting nodes", Col. 1, lines 27-28), and said algebrizing comprising a plurality of operations (such as aggregate binding "set of **variable bindings**", Col. 24, line 58; and tree translation "**translate function**" Col. 15, line 27), said method comprising the inclusion of constant folding ("**replaced** by the (**constant**) value", Col. 9, line 31)as an operation among said plurality of operations

Regarding Claim 11, Gottlob discloses a system for algebrizing a syntax tree representation ("XML document trees", Col. 1, lines 27-28) of a relational database query into a relational algebra

representation ("formulating expressions that evaluate to a string, a number or a boolean value", Col. 1, lines 28-30), said syntax tree comprising a plurality of nodes, said system comprising:

a plurality of operations, wherein at least one of the plurality of operations is selected from a group of operations, the group of operations comprising:

aggregate binding ("set of variable bindings", Col. 24, line 58); tree translation ("translate function". Col. 15, line 27); and

a subsystem for performing at least two of the plurality of operations (operation inherently performed in a order, whichever perform first, and second) in a predetermined order at each of the plurality of nodes ("carry out the operation in time given two node sets", Col. 15, lines 52-53) in a single pass (in step d. "replacing variable … provided by an input variable binding", Col. 26, lines 47-49) through said syntax tree representation.

Regarding Claim 13, as discussed above in details in the preceding rejection of claim 3, Gottlob meets the limitations of claim 13.

Regarding Claim 14, Gottlob discloses the system of claim 11 wherein each of said at least two of the plurality of operations are selected from the group of operations such aggregate binding ("set of variable bindings", Col. 24, line 58); constant folding ("replaced by the (constant) value", Col. 9, line 31); and tree translation ("translate function". Col. 15, line 27).

Regarding Claim 15, Gottlob discloses the system of claim 11 wherein said at least two of the plurality of operations comprises at least [all of the group] of operations such as aggregate binding ("set of variable bindings", Col. 24, line 58); constant folding ("replaced by the (constant) value", Col. 9, line 31); and tree translation ("translate function". Col. 15, line 27).

Regarding Claim 17, Gottlob discloses the system of claim 11 wherein said algebrizing comprises one or more of: aggregate binding ("set of variable bindings", Col. 24, line 58); constant folding ("replaced by the (constant) value", Col. 9, line 31); and tree translation ("translate function". Col. 15, line 27).

Regarding Claim 21, Gottlob discloses a computer-readable medium comprising computer-readable instructions for algebrizing a syntax tree representation ("XML document trees", Col. 1, lines 27-28; "parse tree (expression tree)", Col. 12, line 15-20) of a relational database query ("Top-down

processing", Col. 12, lines 15-20; "with parse tree of a given query", Col. 12, lines 1-2; "top-down

method...with (join) optimization techniques in relational databases", Col. 19, lines 10-12) into a relational

algebra representation ("formulating expressions that evaluate to a string, a number or a boolean value",

Col. 1, lines 28-30), said syntax tree comprising a plurality of nodes ("selecting nodes", Col. 1, lines 27-

28), said computer-readable instructions comprising instructions for performing pass through-constant

folding ("replaced by the (constant) value", Col. 9, line 31) on said syntax tree representation.

Regarding Claim 22, Gottlob discloses the computer-readable instructions of claim 34, further

comprising instructions for performing the plurality of operations executed-in a predetermined order

("carry out the operation in time given two node sets", Col. 15, lines 52-53) at each of said plurality of

nodes (See footnote #1).

Regarding Claim 23, as discussed above in details in the preceding rejection of claim 3, Gottlob

meets the limitations of claim 23.

Regarding Claim 25, Gottlob discloses the computer-readable instructions of claim 34, wherein

the plurality of operations comprises table and column binding ("context-value table associated with the

left direct subexpressions", Col. 29, line 21), aggregate binding ("set of variable bindings", Col. 24, line

58); type derivation ("replacing implicit type conversions with explicit type conversions", Claim 18),

property derivation ("desirable properties of methods", Col. 1, line 38; "Procedure 3 has the following

properties", Col. 7, line 22), constant folding (replaced by the (constant) value", Col. 9, line 31); and tree

translation ("translate function". Col. 15, line 27).

Regarding Claim 30, Gottlob discloses a computer-readable medium comprising computer-

readable instructions for algebrizing a syntax tree representation ("XML document trees", Col. 1, lines 27-

28; "parse tree (expression tree)", Col. 12, line 15-20) of a relational database query ("Top-down

processing", Col. 12, lines 15-20; "with parse tree of a given query", Col. 12, lines 1-2; "top-down

method...with (join) optimization techniques in relational databases", Col. 19, lines 10-12) into a relational

algebra representation ("formulating expressions that evaluate to a string, a number or a boolean value",

Col. 1, lines 28-30), said syntax tree comprising a plurality of nodes ("selecting nodes", Col. 1, lines 27-

28), and said algebrizing comprising a plurality of operations, said computer-readable instructions

comprising instructions for constant folding ("replaced by the (constant) value", Col. 9, line 31) as an operation among said plurality of operations.

Regarding Claim 31, Gottlob discloses the method of claim 5 wherein said at least two operations (aggregate binding ("set of **variable bindings**", Col. 24, line 58, "**replaced** by the (**constant**) value", Col. 9, line 31; and tree translation ("**translate function**". Col. 15, line 27) further comprises constant folding ("**replaced** by the (**constant**) value", Col. 9, line 31);, and tree translation ("**translate function**". Col. 15, line 27).

Regarding Claim 32, Gottlob discloses the system of claim 11 wherein said group of operations further comprises constant folding ("replaced by the (constant) value", Col. 9, line 31)

Regarding Claim 33, Gottlob discloses the system of claim 15 wherein said at least two operations (aggregate binding ("set of **variable bindings**", Col. 24, line 58, "**replaced** by the (**constant**) value", Col. 9, line 31; and tree translation ("**translate function**". Col. 15, line 27) further comprises constant folding ("replaced by the (constant) value", Col. 9, line 31)

Regarding Claim 34, Gottlob discloses the computer-readable instructions of claim 21 further comprising instructions for performing a plurality of operations in a single pass (in step d. "replacing variable … provided by an input variable binding", Col. 26, lines 47-49) through the syntax tree representation ("XML document trees", Col. 1, lines 27-28), wherein at least one of the plurality of operations is selected from a group of operations comprising: aggregate binding ("set of variable bindings", Col. 24, line 58), constant folding ("replaced by the (constant) value", Col. 9, line 31), and tree translation ("translate function". Col. 15, line 27).

Regarding Claims 35-37, as discussed in details in the preceding rejections of claims 3, 30-34, Gottlob meets the limitations of claims 35-37.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Wilson Lee whose telephone number is (571) 272-1824.

Papers related to the application may be submitted by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT". The official fax number is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Wilson Lee/
Primary Examiner, Art Unit 2163

8-3-08